UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 22, 2020

Ms. Karen Hays, Chief
Air Protection Branch
Georgia Environmental Protection Division
4244 International Parkway, Suite 120
Atlanta, Georgia 30354

Dear Ms. Hays:

The U.S. Nuclear Regulatory Commission (NRC) uses the Integrated Materials Performance Evaluation Program (IMPEP) in the review of Agreement State and NRC radiation control programs. Enclosed for your review is the draft IMPEP report, which documents the results of the Georgia Agreement State review held remotely from April 20-24, 2020. The team's preliminary findings were discussed with you and your staff on the last day of the review. The team's proposed recommendations are that the Georgia Agreement State Program be found adequate to protect public health and safety and compatible with the NRC's program.

The NRC conducts periodic reviews of radiation control programs to ensure that public health and safety are adequately protected from the potential hazards associated with the use of radioactive materials and that Agreement State programs are compatible with the NRC's program. The IMPEP process uses a team comprised of Agreement State and NRC staff to perform the reviews. All reviews use common criteria in the assessment and place primary emphasis on performance. The final determination of adequacy and compatibility of each program, based on the team's report, is made by the Chair of the Management Review Board (MRB) after receiving input from the MRB members. The MRB is composed of NRC senior managers and an Agreement State program manager who serves as a liaison to the MRB.

In accordance with procedures for implementation of IMPEP, we are providing you with a copy of the draft report for your review and comment prior to submitting the report to the MRB. Comments are requested within 4 weeks from your receipt of this letter. This schedule will permit the issuance of the final report in a timely manner that will be responsive to your needs.

The team will review the response, make any necessary changes to the report, and issue it to the MRB as a proposed final report. The MRB meeting is scheduled to be conducted on August 4, 2020, at 1 p.m. eastern time (ET). The NRC will provide invitational travel for you or your designee to attend the MRB meeting at the NRC Headquarters in Rockville, Maryland. The NRC has Skype capability if it is more convenient for the State to participate through this medium. Please contact me if you desire to participate in the meeting using Skype. If travel restrictions remain in place at the time of the MRB we will conduct the meeting remotely.

If you have any questions regarding the enclosed report, please contact me at 817-200-1596 or Randy Erickson at 817-200-1143.

Thank you for your cooperation.

Sincerely,

/RA/

Lizette Roldan-Otero, Ph.D., Acting Chief
State Agreement and Liaison Programs Branch
Division of Materials Safety, Security, State,
and Tribal Programs
Office of Nuclear Material Safety and Safeguards

Enclosure:
2020 Draft IMPEP Report

SUBJECT: GEORGIA FY2020 DRAFT IMPEP REPORT

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INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM

REVIEW OF THE GEORGIA AGREEMENT STATE PROGRAM

APRIL 20-24, 2020

DRAFT REPORT

Enclosure

EXECUTIVE SUMMARY

The results of the Integrated Materials Performance Evaluation Program (IMPEP) review for the Georgia Agreement State Program (the Program) are discussed in this report. The review was conducted during the period of April 20-24, 2020, by a team composed of technical reviewers from the U.S. Nuclear Regulatory Commission (NRC), and the States of Arizona and Colorado.

Based on the results of this review, Georgia's performance was found to be satisfactory for all six indicators reviewed.

The team did not make any new recommendations and determined that five recommendations from the 2016 IMPEP review should be closed (see discussion in Section 2.0).

Accordingly, the team recommends that the Georgia Agreement State Program be found adequate to protect public health and safety and compatible with the NRC's program. The team recommends that the next IMPEP review take place in approximately 4 years with a periodic meeting in approximately 2 years.

1.0 INTRODUCTION

The Georgia Agreement State Program (the Program) review was conducted during the period of April 20-24, 2020, by a team comprised of technical staff members from the U.S. Nuclear Regulatory Commission (NRC), and the States of Colorado and Arizona. Team members are identified in Appendix A. The review was conducted in accordance with the "Agreement State Program Policy Statement," published in the *Federal Register* on October 18, 2017 (82 FR 48535), and NRC Management Directive (MD) 5.6, "Integrated Materials Performance Evaluation Program (IMPEP)," dated July 24, 2019. Preliminary results of the review, which covered the period of May 13, 2016, to April 24, 2020, were discussed with Georgia managers on the last day of the review.

In preparation for the review, a questionnaire addressing the common performance indicators and applicable non-common performance indicators was sent to Georgia on January 22, 2020. Georgia provided its response to the questionnaire by electronic mail on April 6, 2020. A copy of the questionnaire response is available in the NRC's Agencywide Documents Access and Management System (ADAMS) using the Accession No. ML20098F647.

The Program is administered by the Radiation Protection Programs Group. The Program is in the Air Protection Branch of the Environmental Protection Division of the Georgia Department of Natural Resources. Organization charts for Georgia are available in ADAMS using the Accession Number ML20098F966.

At the time of the review, Georgia regulated 393 specific licenses authorizing possession and use of radioactive materials. The review focused on the radiation control program as it is carried out under Section 274b (of the Atomic Energy Act of 1954, as amended), Agreement between the NRC and the State of Georgia.

The team evaluated the information gathered against the established criteria for each common and the applicable non-common performance indicator and made a preliminary assessment of the State's performance.

2.0 PREVIOUS IMPEP REVIEW AND STATUS OF RECOMMENDATIONS

The previous IMPEP review concluded on May 12, 2016. The final report is available in ADAMS using Accession No. ML16223A001. The results of the review and the status of the associated recommendations are as follows:

Technical Staffing and Training: Satisfactory

Recommendation: The Management Review Board (MRB) recommended that Program management develop a strategy to address staff retention and implement corrective actions to mitigate the causes of the Program's turnover to ensure satisfactory program performance is sustained (Section 3.1.c).

Status: During the 2016 IMPEP MRB meeting, the MRB discussed the Program's turnover of staff and how this trend had impacted staff training and qualifications. The 2016 IMPEP team had identified performance issues in the indicators Status of the Materials Inspection Program, Technical Quality of Inspections, and Technical Quality of Licensing Actions that were attributed to staff turnover. As a first step in addressing this

recommendation, Program management analyzed the reasons staff gave as to why they left the program during the 2016 IMPEP review timeframe. Although an explicit reason could not be identified, as reasons for departure varied widely, salaries and lack of promotion potential were common contributing factors. A meeting was held between Program management, the Human Resources Director, and the Director of the Georgia Environmental Protection Division to discuss issues involving staff retention for the entire Air Protection branch since this issue was not unique to the radioactive materials staff.

One outcome of these discussions was to create a path for upward mobility within the Radiation Protection Programs section. This was accomplished in 2017 by creating a Program Manager - 1 position and a team leader position within the Radiation Protection Programs section. In September 2018, the “Environmental Specialist 4 (ES - 4)” position was expanded to include Subject Matter Experts. Staff demonstrating expertise in a particular area can be recommended by management for this promotion. The expansion of the ES-4 position to include Subject Matter Experts offers an additional opportunity for promotion along a non-managerial track to the staff. Although no staff have been promoted to this position yet, Program management plans to submit several staff members for consideration when they become ‘Fully Qualified.” Technical staff now have promotion potential positions in both managerial and non-managerial tracks to work towards rather than looking for those opportunities elsewhere.

As a second step, the Air Protection branch chief met with all staff individually to obtain thoughts and ideas on how the work environment could be improved. After collecting all the feedback, the branch chief decided that the most critical concern for staff was to ensure licensing accuracy. The corrective action to address this concern was led by a lean six sigma green belt, and had the objective of “consolidating, revising, and adding adequate technical detail to existing procedures and developing licensing templates for the major licensing types.” A presentation on this initiative was held for the Environmental Protection Division Director on May 17, 2018.

The revisions to the licensing procedures completed by the lean six sigma team and the path forward they suggested were approved at that time. The Program held training on June 26, 2018, that covered all the revisions to the procedures and to discuss how to use the flowcharts that were created. As staff identify items that need additional clarification in the revised procedures, they communicate those items to the Program Manager who revises the procedures as appropriate.

The team noted that the Program has done extensive work in order to retain staff and in the event of turnover ensure that satisfactory performance is sustained. During the 2020 IMPEP review period, the Program lost five technical staff and the Program Manager. Three technical staff and the Program Manager left for promotions/better opportunities, one technical staff was terminated, and one technical staff retired. Despite the amount of turnover experienced during the review period, the Program was able to achieve satisfactory performance in all performance indicators reviewed.

The team concluded that this recommendation should be closed.

Status of Materials Inspection Program: Satisfactory

Recommendation: The MRB recommended that Program management implement corrective actions and make necessary adjustments to ensure satisfactory program performance is sustained with regard to reciprocity inspections (Section 3.2.c).
The Program is aware of the need to continue to conduct reciprocity inspections and has implemented corrective actions to ensure they meet its goal of inspecting 20 percent of candidate licensees in each calendar year. Program management developed a policy that each staff member must perform at least one reciprocity inspection every calendar year. They believe that this will ensure that the requirement of inspecting 20 percent of candidate licensees in each calendar year is met.

Program management recognized that the success of this approach relied on qualifying staff to inspect the types of licensees that typically conduct work in the state under reciprocity (e.g., industrial radiography, and portable gauges). The Program continues to work toward ensuring that all staff are qualified to perform these types of inspections. Until all staff are qualified, staff that are qualified will continue to perform additional inspections to ensure the requirement is met. Qualified inspectors will continue to select the reciprocity inspection they wish to perform; however, program management stated that if the 20 percent inspection criteria is not being met and sustained half way through the calendar year, reciprocity inspections will be assigned to staff to ensure the 20 percent inspection criteria is met in each calendar year.

During the 2020 IMPEP review, the team confirmed that corrective actions were effective and that for each year of the review period, the Program met or exceeded programmatic goals for conducting reciprocity inspections.

The team concluded that this recommendation should be closed.

Technical Quality of Inspections: Satisfactory

Recommendation: The review team recommended that the Program develop and implement training for inspectors on the examination of the written directives and NRC Inspection Procedure 87132, “Brachytherapy Programs” (Section 3.3.c).

Status: Following the 2016 IMPEP review, the Program recognized that they did not have enough in-house expertise to develop its own training. At the suggestion of the NRC, the Program used NRC developed training on Inspection Procedure 87132 to partially address the recommendation. Additionally, the NRC developed another training that was offered to all Agreement States as a webinar on April 4, 2017, entitled “Medical Webinar Training Series: Brachytherapy Medical Events/Reporting – Y-90 Microsphere and High Dose Rate Brachytherapy.” The Program Managers and the nine technical staff attended this training and felt that it increased staff knowledge of how to inspect written directives used in brachytherapy procedures, and that staff had not raised any additional concerns to date regarding these types of inspections. Program Managers added that licensees are performing few, if any, of these procedures making it difficult for inspectors to apply the knowledge gained during training.

During the 2020 IMPEP review, the team found that due to a continued decrease in the medical use of manual brachytherapy, inspector accompaniments were not able to be performed at licensees with an active manual brachytherapy program. However, while

accompanying the Program's inspectors during a team inspection of a large licensee, the team was able to observe inspectors reviewing written directives for unsealed radiopharmaceutical therapies and high dose rate remote afterloader therapies.

Additionally, the team was able to review several inspection reports for unsealed radiopharmaceutical therapy, manual brachytherapy, high dose rate remote afterloader therapy, and gamma stereotactic radiosurgery. The team determined through the accompanied inspection and review of other inspection reports that inspectors are knowledgeable in evaluating written directives.

The team concluded that this recommendation should be closed.

Technical Quality of Licensing Actions: Satisfactory but Needs Improvement

Recommendation: The review team recommended that the Program verify that all previously approved radiation safety officers (RSOs) for medical licenses have an attestation by a preceptor RSO, including that the individual has completed training in the radiation safety, regulatory issues, and emergency procedures for the appropriate license type (Section 3.4.c).

Status: Following the 2016 IMPEP review, the Program reviewed the documentation needed and found that over 200 RSOs needed additional documentation. As of June 2018, the Program reported that all work on the recommendation had been completed.

During the 2020 IMPEP review, the team confirmed that the Program had revised its procedures and provided staff training on the approval of medical RSOs. The team evaluated previously approved and recent casefiles for amendments and renewals that authorized medical RSOs and found that Program staff verified the preceptors' attestation, qualifications, and assessed the training in radiation safety, regulatory issues, and emergency procedures for RSOs that were added to the license for these actions.

The team concluded that this recommendation should be closed.

Recommendation: The review team recommended that the Program management develop and implement training and guidance that provides the staff with the tools necessary to accurately complete the Program's pre-licensing requirements for each new license (Section 3.4.c).

Status: Following the 2016 IMPEP review, the Program redesigned its pre-licensing guidance and associated forms, then provided staff training. That training was to ensure that when new license applications were received, the revised guidance would be used. Program Managers periodically evaluated the actions completed by staff to see if additional revisions were required and found that since putting the new guidance in place, none were required. The risk significant radioactive materials checklist was also revised by the NRC in June 2017, which was adopted by the Program prior to its implementation date in January 2018.

During the 2020 IMPEP review, the team confirmed that the Program had updated its licensing procedures and provided additional staff training which included: documentation for site visits, completion of the pre-license forms, peer reviews and management approval. This procedure includes both the pre-licensing guidance checklist and the risk significant radioactive materials checklist. The team evaluated casefiles for new licenses and change of control amendments and determined that Program staff was appropriately completing the pre-licensing requirements for each new license and applicable change of control amendments. The team concluded that this recommendation should be closed.

Technical Quality of Incident and Allegation Activities: Satisfactory

Recommendation: None

Legislation, Regulations and Other Program Elements: Satisfactory

Recommendation: None

Overall finding: Adequate to protect public health and safety and compatible with the NRC's program.

3.0 COMMON PERFORMANCE INDICATORS

Five common performance indicators are used to review the NRC and Agreement State radiation control programs. These indicators are: (1) Technical Staffing and Training, (2) Status of Materials Inspection Program, (3) Technical Quality of Inspections, (4) Technical Quality of Licensing Actions, and (5) Technical Quality of Incident and Allegation Activities.

3.1 Technical Staffing and Training

The ability to conduct effective licensing and inspection programs is largely dependent on having a sufficient number of experienced, knowledgeable, well-trained technical personnel. Under certain conditions, staff turnover could have an adverse effect on the implementation of these programs and could affect public health and safety. Apparent trends in staffing must be assessed. Review of staffing also requires consideration and evaluation of the levels of training and qualification. The evaluation standard measures the overall quality of training available to, and taken by, materials program personnel.

a. Scope

The team used the guidance in State Agreements Procedure SA-103, “Reviewing the Common Performance Indicator: Technical Staffing and Training,” and evaluated Georgia’s performance with respect to the following performance indicator objectives:

- A well-conceived and balanced staffing strategy has been implemented throughout the review period.
- Any vacancies, especially senior-level positions, are filled in a timely manner.
- There is a balance in staffing of the licensing and inspection programs.
- Management is committed to training and staff qualification.

- Agreement State training and qualification program is equivalent to NRC Inspection Manual Chapter (IMC) 1248, "Formal Qualifications Program for Federal and State Material and Environmental Management Programs."
- Qualification criteria for new technical staff are established and are followed, or qualification criteria will be established if new staff members are hired.
- Individuals performing materials licensing and inspection activities are adequately qualified and trained to perform their duties.
- License reviewers and inspectors are trained and qualified in a reasonable period of time.

b. Discussion

The Program is comprised of 2 Program Managers, 1 Team Leader, and 11 technical staff members which equals approximately 13 full-time equivalents (FTE) when fully staffed. Technical staff are split between the Radioactive Materials Program and the Environmental Radiation Program, both of which fall under the Radiation Protection Programs Group. There are two technical staff vacancies which equal 1.5 FTE. One of the vacant positions, comprising 1.0 FTE, has been filled and the individual's start date is May 18, 2020. The other vacancy, comprising 0.5 FTE, has not been posted. The unfilled position is a hybrid position designated as 0.5 FTE to the Radioactive Materials Program and 0.5 FTE to the Environmental Radiation Program. This position has been held open since April 2019 to determine if there is a need to fill this position.

During the review period, five technical staff members and the Program Manager left the program and three technical staff members and a Program Manager were hired. An additional technical staff member has been hired and will start on May 18, 2020. The reasons for the departures were 1) better opportunities (three technical staff and the Program Manager), 2) retirement (one technical staff), and 3) termination (one technical staff). These positions were vacant anywhere from 1 month to 9 months before being filled. The hybrid position mentioned in the above paragraph, which is still vacant, has been vacant for approximately 1 year.

The 2016 IMPEP review identified performance issues in the indicators Status of Materials Inspection Program, Technical Quality of Inspections, and Technical Quality of Licensing Actions that were attributed to staff turnover. As a result, the MRB recommended that Program management develop a strategy to address staff retention and implement corrective actions to mitigate the causes of the Program's turnover to ensure satisfactory program performance is sustained. As discussed in detail in Section 2.0 of this report, Program management analyzed the reasons for staff departure and took several steps to address staff retention and ensure Program success. Despite the high amount of turnover that occurred during this review period, the team determined that the Program was able to sustain satisfactory performance in the indicators Technical Staffing and Training, Status of Materials Inspection Program, Technical Quality of Inspections, and Technical Quality of Incident and Allegations Activities and improve performance to a finding of satisfactory for the indicator, Technical Quality of Licensing Actions.

The team determined that there is a balance in staffing of the licensing and inspection portions of the program. Staff in the Radioactive Materials Program perform both licensing and inspection activities while staff in the Environmental Protection Program are qualified inspectors and support inspection activities as necessary. Program management is committed to training and staff qualification, and the Program has a training and qualification manual compatible with the NRC's IMC 1248. All new staff are assigned a training and qualification journal to ensure consistent qualification and to document the qualification process. Technical staff take approximately 6 months to become qualified to independently perform inspections and licensing actions on their first modality. In total it takes around 5 years for staff to be qualified to independently inspect and perform licensing actions on all modalities regulated by the Program. This is because several of the regulated modalities have very few licensees and it can take some time before each staff member performs enough licensing and inspection actions to be considered qualified in that modality. All qualified license reviewers and inspectors met the refresher training requirements as stated in IMC 1248 of completing 24 hours of training every 24 months during the review period.

c. Evaluation

The team determined that, during the review period, Georgia met the performance indicator objectives listed in Section 3.1.a. Based on the criteria in MD 5.6, the team recommends that Georgia's performance with respect to the indicator, Technical Staffing and Training, be found satisfactory.

d. Management Review Board Chair's Determination

The final report will present the MRB Chair's determination regarding this indicator.

3.2 Status of Materials Inspection Program

Periodic inspections of licensed operations are essential to ensure that activities are being conducted in compliance with regulatory requirements and consistent with good safety and security practices. The frequency of inspections is specified in IMC 2800, "Materials Inspection Program," and is dependent on the amount and type of radioactive material, the type of operation licensed, and the results of previous inspections. There must be a capability for maintaining and retrieving statistical data on the status of the inspection program.

a. Scope

The team used the guidance in State Agreements' Procedure SA-101, "Reviewing the Common Performance Indicator: Status of the Materials Inspection Program," and evaluated Georgia's performance with respect to the following performance indicator objectives:

- Initial inspections and inspections of Priority 1, 2, and 3 licensees are performed at the frequency prescribed in IMC 2800.
- Deviations from inspection schedules are normally coordinated between technical staff and management.

- There is a plan to perform any overdue inspections and reschedule any missed or deferred inspections, or a basis has been established for not performing any overdue inspections or rescheduling any missed or deferred inspections.
- Candidate licensees working under reciprocity are inspected in accordance with the criteria prescribed in IMC 2800, and other applicable guidance or compatible Agreement State Procedure.
- Inspection findings are communicated to licensees in a timely manner (30 calendar days, or 45 days for a team inspection), as specified in IMC 0610, "Nuclear Material Safety and Safeguards Inspection Reports."

b. Discussion

Over the review period, the Program performed 238 Priority 1, 2, 3 and initial inspections. The team found that 17 out of 207 Priority 1, 2, 3 inspections and 3 out of 31 initial inspections were conducted overdue. Overall, the team determined that the Program conducted 8.7 percent of Priority 1, 2, 3, and initial inspections overdue during the review period.

Following the 2016 IMPEP review, the Program built a web-based database designed to track inspection and licensing actions. This database has been in use since 2017. During the review period, the Program self-identified three errors that occurred during the migration of data to the new database, which resulted in incorrect inspection frequencies being assigned. These errors were identified by the Program as the licenses came due for inspection. In each case the incorrect inspection frequency was at a lower priority than should have been originally assigned, causing the inspections to be overdue at the time they were discovered.

The Program's inspection frequencies are the same as, or more frequent for similar license types in IMC 2800 except for one. The team determined that the Program was performing one type of inspection activity less frequently than that stated in IMC 2800. The team identified seven licenses authorizing the use of yttrium-90 (Y-90) microspheres used in medical therapy procedures, had been assigned a Priority 3 inspection frequency instead of the Priority 2 inspection frequency as stated in IMC 2800. The team discussed this finding with the Program, and the Program stated it did not realize the NRC assigned this use as a Priority 2 inspection and that it believed that since this procedure was a therapeutic procedure which required a written directive it was like other therapeutic procedures requiring a written directive performed under Title 10 of the *Code of Federal Regulations* (10 CFR) 35.300. Therefore, the Program assigned this type of inspection a 3-year inspection frequency which is the frequency assigned to licenses authorized to perform procedures under 10 CFR 35.300. Following the discussions, Program management committed to changing these seven licensees from Priority 3 to Priority 2 following each licensee's next regularly scheduled inspection.

Of the 233 inspection reports generated over the review period, the team found that 10 of the inspection reports were communicated to the licensees beyond the Program's goal of 30 days following the inspection exit and ranged anywhere from 7 and 14 days late.

The 2016 IMPEP review identified that the Program did not meet the requirement of inspecting at least 20 percent of reciprocity candidate licensees in each year of the review period. As a result, a recommendation was made to improve program

performance. As discussed in Section 2.0, the Program implemented programmatic changes to ensure that greater than 20 percent of reciprocity candidate licensees would be inspected in each calendar year. The team reviewed the reciprocity inspections performed by the Program and found that for each year of the review period, the Program performed greater than 20 percent of candidate reciprocity inspections.

c. Evaluation

The team determined that, except as noted below during the review period, Georgia met the performance indicator objectives listed in Section 3.2.a.

- Initial inspections and inspections of Priority 1, 2, and 3 licensees were not performed at the frequency prescribed in IMC 2800 for one modality.

The team identified that out of a total of 393 specific licenses currently regulated by the Program authorizing possession and use of radioactive materials, 7 specific licenses authorized the use of yttrium-90 microspheres. Each of those seven licenses were found to have been assigned a Priority 3 inspection frequency and therefore were inspected by the Program at a frequency less than the frequency prescribed in IMC 2800. The team discussed this with the Program who committed to changing each of those licenses to a Priority 2 inspection at the time of the next regularly scheduled inspection.

Based on the criteria in MD 5.6, the team recommends that Georgia's performance with respect to the indicator, Status of Materials Inspection Program, be found satisfactory.

d. Management Review Board Chair's Determination

The final report will present the MRB Chair's determination regarding this indicator.

3.3 Technical Quality of Inspections

Inspections, both routine and reactive, provide reasonable assurance that licensee activities are carried out in a safe and secure manner. Accompaniments of inspectors performing inspections, and the critical evaluation of inspection records, are used to assess the technical quality of an inspection program.

a. Scope

The team used the guidance in State Agreements' Procedure SA-102, "Reviewing the Common Performance Indicator: Technical Quality of Inspections," and evaluated Georgia's performance with respect to the following performance indicator objectives:

- Inspections of licensed activities focus on health, safety, and security.
- Inspection findings are well-founded and properly documented in reports.
- Management promptly reviews inspection results.
- Procedures are in place and used to help identify root causes and poor licensee performance.
- Inspections address previously identified open items and violations.
- Inspection findings lead to appropriate and prompt regulatory action.

- Supervisors, or senior staff as appropriate, conduct annual accompaniments of each inspector to assess performance and assure consistent application of inspection policies.
- For programs with separate licensing and inspection staffs, procedures are established and followed to provide feedback information to license reviewers.
- Inspection guides are compatible with NRC guidance.
- An adequate supply of calibrated survey instruments is available to support the inspection program.

b. Discussion

The team evaluated the inspection reports, enforcement documentation, and interviewed inspectors involved in materials inspections conducted during the review period. The casework reviewed included 26 inspections conducted by 8 program inspectors, both past and current, and covered medical, industrial, commercial, academic, research, and service provider licenses.

The team found that inspection documents were thorough, complete, consistent, and of acceptable technical quality with health, safety, and security issues properly addressed. Inspection findings were clearly communicated to the licensee. In the casework reviewed, reports addressed previously identified open items and violations.

One team member accompanied five Program inspectors during the week of March 2-5, 2020. No performance issues were noted during the accompaniments. The team found that inspectors were well-prepared and thorough, and assessed the impact of licensed activities on health, safety, and security. Previous violations were reviewed to ensure corrective actions were adequately implemented by licensees. Inspectors observed the use of radioactive materials when possible and interviewed licensee staff. Inspectors used open ended questions and were able to develop a basis of confidence that radioactive materials were being used safely and securely. Any findings observed were brought to the medical user's attention at the time of inspection and again to the licensee's management during the inspection closeout. Inspection reports and compliance letters to the licensees for those reports reviewed by the team, were completed within 30 days and clearly stated what was observed that needed correction by the licensee. All compliance letters are signed by the Program management. The inspector accompaniments are identified in Appendix B.

During the 2016 IMPEP review inspector accompaniments, one Program inspector failed to properly review the licensee's manual brachytherapy written directive program, did not identify issues associated with that program, did not look for licensee written directive procedures, did not consider the lack of procedures by the licensee to be an issue; and, when presented with the opportunity to observe an upcoming procedure involving manual brachytherapy later that day, did not take advantage of that opportunity to observe the procedure to determine licensee compliance with written directive requirements.

Following the 2016 IMPEP review to correct this issue, the Program used NRC developed training on Inspection Procedure 87132 to partially address this issue. Additionally, Program staff attended additional training that was offered to all Agreement States as a webinar on April 4, 2017, entitled "Medical Webinar Training Series:

Brachytherapy Medical Events/Reporting – Y-90 Microsphere and High Dose Rate Brachytherapy." Following this training the Program believed it increased staff knowledge and awareness of written directives used in brachytherapy procedures. However, Program Managers noted that the number of licensees performing these procedures were declining making it difficult for inspectors to apply the knowledge gained through training.

At the time of the 2020 IMPEP review the team found that due to a continued decrease in the medical use of manual brachytherapy, inspector accompaniments were not able to review inspections at licensees with an active manual brachytherapy program. However, while accompanying Program inspectors for the 2020 IMPEP review, the team was able to observe inspectors reviewing written directives for unsealed radiopharmaceutical therapies and high dose rate remote afterloader therapies during an inspection of a large licensee. Additionally, the team was able to interview inspectors in addition to reviewing several inspection reports for unsealed radiopharmaceutical therapy, manual brachytherapy, high dose rate remote afterloader therapy, and gamma stereotactic radiosurgery. From the accompanied inspection, inspector interviews, and review of other inspection reports, the team determined that inspectors are knowledgeable in evaluating written directives.

Supervisory accompaniments were conducted annually for most inspectors. One inspector was not accompanied in 2017 and one inspector was not accompanied in 2019. Overall, the team did not identify any performance issues related to the missed supervisory accompaniments.

The team verified that the Program maintains a wide variety of appropriately calibrated survey instruments to support the inspection program, and to respond to radioactive materials incidents and emergency situations. Calibration records for the instruments are maintained on file. Detection instruments are available for gamma, beta, and alpha contamination, as well as dose rates. The Program also had portable multi-channel analyzers for assessing and identifying unknown sources.

c. Evaluation

The team determined that, except as noted below during the review period, Georgia met the performance indicator objectives listed in Section 3.3.a.

- Supervisors, or senior staff as appropriate, did not conduct annual accompaniments of each inspector to assess performance and assure consistent application of inspection policies.

The missed 2017 accompaniment involved the supervisor who performed inspections in 2017. The missed 2019 accompaniment involved an individual who performed one routine inspection in 2019. The team found that the missed accompaniments did not result in performance issues for the Program.

Based on the criteria in MD 5.6, the team recommends that Georgia's performance with respect to the indicator, Technical Quality of Inspections be found satisfactory.

d. Management Review Board Chair's Determination

The final report will present the MRB Chair's determination regarding this indicator.

3.4 Technical Quality of Licensing Actions

The quality, thoroughness, and timeliness of licensing actions can have a direct bearing on public health and safety, as well as security. An assessment of licensing procedures, implementation of those procedures, and documentation of communications and associated actions between the State's licensing staff and regulated community is a significant indicator of the overall quality of the licensing program.

a. Scope

The team used the guidance in State Agreements Procedure SA-104, "Reviewing the Common Performance Indicator: Technical Quality of Licensing Actions," and evaluated Georgia's performance with respect to the following performance indicator objectives:

- Licensing action reviews are thorough, complete, consistent, and of acceptable technical quality with health, safety, and security issues properly addressed.
- Essential elements of license applications have been submitted and elements are consistent with current regulatory guidance (e.g., pre-licensing guidance, 10 CFR Part 37, financial assurance, etc.).
- License reviewers, if applicable, have the proper signature authority for the cases they review independently.
- License conditions are stated clearly and can be inspected.
- Deficiency letters clearly state regulatory positions and are used at the proper time.
- Reviews of renewal applications demonstrate a thorough analysis of a licensee's inspection and enforcement history.
- Applicable guidance documents are available to reviewers and are followed (e.g., NUREG-1556 series, pre-licensing guidance, regulatory guides, etc.).
- Licensing practices for risk significant radioactive materials are appropriately implemented including the physical protection of Categories 1 and 2 quantities of radioactive material (Part 37 equivalent).
- Documents containing sensitive security information are properly marked, handled, controlled, and secured.

b. Discussion

During the review period, the Program performed 1,325 radioactive materials licensing actions. The team evaluated 30 of those licensing actions. The licensing actions selected for review included 4 new applications, 15 amendments, 8 renewals, 3 terminations. The team evaluated casework that included the following license types and actions: broad scope, medical diagnostic and therapy, commercial manufacturing and distribution, industrial radiography, research and development, academic, nuclear pharmacy, nuclear laundry, fixed and portable gauges, self-shielded irradiators, service providers, decommissioning actions, financial assurance, and notifications. The casework sample represented the work of 12 previous and current license reviewers.

The team found that the licensing actions reviewed were thorough, complete, consistent, and of acceptable quality with health, safety, and security issues properly addressed. Essential elements of license applications were reviewed, and elements were consistent with current regulatory guidance. Deficiency communications clearly stated regulatory positions and responses were reviewed using appropriate guidance. License conditions were stated clearly, and license reviewers had the proper signature authority. Peer reviews were conducted on each action and program management reviewed all complex actions, including those associated with medical RSO approvals. Reviews of renewal applications demonstrated a thorough analysis of a licensee's inspection and performance history. The team did not identify any licensing action related issues, including license conditions, that were of health and safety, or security significance.

During the 2016 IMPEP review, the team found that license reviewers were not aware of all the requirements for adding an RSO to a medical license. The Program staff would obtain RSO preceptor attestations for a few designated RSOs as part of their work to document training and experience for all authorized users, but they discontinued this practice for unknown reasons.

Following the 2016 IMPEP review, the Program reviewed the documentation needed to add an RSO to a medical license and found that over 200 RSOs needed additional documentation. That information was collected and verified, and as of June 2018, the action had been completed. Additionally, licensing procedures were revised to direct staff to gather this information when adding an RSO to a medical license.

During the 2020 IMPEP review, the team confirmed that the Program had revised its procedures and provided staff training on the approval of medical RSOs, as discussed in Section 2.0. The team evaluated previously approved and recent casefiles for amendments and renewals that authorized medical RSOs and found that Program staff verified the preceptors' attestation and qualifications; and assessed the training in radiation safety, regulatory issues, and emergency procedures for RSOs that were added to the license for these actions.

The team examined the Program's licensing practices regarding requests for risk significant radioactive material. The team determined that the Program has a licensing procedure to identify new and amended licenses that should be subject to additional security measures and that the Program is appropriately implementing the procedure. Applicable guidance documents are available to reviewers and are followed. The staff properly marked, handled, and controlled documents containing sensitive security information.

During the 2016 IMPEP review, the team found that Program staff indicated that they were not familiar with the questions and sources of information intended to be used to evaluate the pre-licensing criteria. The team further found that instructions for completing the pre-licensing checklist was not provided to staff who started after their July 2014 pre-licensing training. Quarterly reviews of new license files were performed for all new licenses but did not identify as deficiencies the incomplete pre-licensing checklists, or the unevaluated pre-licensing criteria.

As discussed in Section 2, following the 2016 IMPEP review, the Program redesigned its pre-licensing guidance and associated forms, then provided staff training. That training was to ensure that when new license applications were received, the revised guidance would be used. Program Managers periodically evaluated the actions completed by staff to see if additional revisions were required and found that since putting the new guidance in place, none were required. The risk significant radioactive materials checklist was also revised by the NRC in June 2017, which was adopted by the Program prior to its implementation date in January 2018. The team also determined that the Program is implementing a compatible procedure to the revised pre-licensing guidance that was issued by the NRC in August 2018.

At the time of the 2020 IMPEP review, the team determined that the appropriate pre-licensing guidance checklist was being appropriately implemented in all applicable cases reviewed, including new license actions and change of control amendments. The team confirmed that the Program had updated its licensing procedures and provided additional staff training which included: documentation for site visits, completion of the pre-license forms, peer reviews and management approval. These procedures include both the pre-licensing guidance checklist and the risk significant radioactive materials checklist. The team evaluated casefiles for new licenses and change of control amendments and determined that Program staff was appropriately completing the pre-licensing requirements for each new license.

c. Evaluation

The team determined that during the review period Georgia met the performance indicator objectives listed in Section 3.4.a. Based on the IMPEP evaluation criteria in MD 5.6, the review team recommends that Georgia's performance with respect to the indicator, Technical Quality of Licensing Actions, be found satisfactory.

d. Management Review Board Chair's Determination

The final report will present the MRB Chair's determination regarding this indicator.

3.5 Technical Quality of Incident and Allegation Activities

The quality, thoroughness, and timeliness of response to incidents and allegations of safety concerns can have a direct bearing on public health, safety and security. An assessment of incident response and allegation investigation procedures, actual implementation of these procedures, internal and external coordination, timely incident reporting, and investigative and follow-up actions, are a significant indicator of the overall quality of the incident response and allegation programs.

a. Scope

The team used the guidance in State Agreements' Procedure SA-105, "Reviewing the Common Performance Indicator: Technical Quality of Incident and Allegation Activities," and evaluated Georgia's performance with respect to the following performance indicator objectives:

- Incident response, and allegation procedures are in place and followed.
- Response actions are appropriate, well-coordinated, and timely.

- On-site responses are performed when incidents have potential health, safety, or security significance.
- Appropriate follow-up actions are taken to ensure prompt compliance by licensees.
- Follow-up inspections are scheduled and completed, as necessary.
- Notifications are made to the NRC Headquarters Operations Officer (HOO) for incidents requiring a 24-hour or immediate notification to the Agreement State or NRC.
- Incidents are reported to the Nuclear Material Events Database (NMED) and closed when all required information has been obtained.
- Allegations are investigated in a prompt, appropriate manner.
- Concerned individuals are notified within 30 days, of investigation conclusions.
- Concerned individuals' identities are protected, as allowed by law.

b. Discussion

During the review period, the Program reported 47 incidents to the NMED. The team evaluated 14 of the 47 reported incidents which included 2 lost radioactive material events, 4 potential overexposures, 4 medical events, 1 damaged portable gauge, 1 leaking source, 1 equipment failure, and 1 transportation event.

The team found that inspectors properly evaluated each event, interviewed involved individuals, and thoroughly documented their findings. Enforcement actions were taken where appropriate. When an event is reported to the Program, the Program Manager evaluates the event to determine its health and safety significance and then decides on the appropriate response. That response can range anywhere from responding immediately to reviewing the event during the next inspection. For each incident that was determined to have potential health and safety significance, the Program Manager directed inspectors to respond immediately. The team also found that the Program responded to events in accordance with its established procedure.

The team evaluated the Program's reporting of events to the NRC's HOO as well as to the NMED. The team determined that of the 38 incidents where a HOO notification was required, the Program reported 11 of them late. The late events all required reporting within 24 hours to the HOO and fell under either 10 CFR 30.50(b)(2) or 10 CFR 20.2201(a)(1)(ii). The late reports were initially reported straight to NMED and were brought to the Program's attention prior to the onsite review as needing to be reported to the HOO. In order to seek clarification on why each of the events required reporting through the HOO, the Program reached out to the NRC to discuss each event. Regarding events under 10 CFR 30.50(b)(2) the Program stated that in its initial review of these events it did not believe that the requirements of 10 CFR 30.50(b)(2) applied. However, after the discussions, the Program stated it understood why the events fell under 10 CFR 30.50(b)(2) and would update its procedures accordingly. Regarding events under 10 CFR 20.2201(a)(1)(ii), the Program stated that SA-300 led them to believe that these events only required a written report and did not require reporting to the HOO. NRC staff identified that while the text of the regulation states that these events are required to be called into the HOO within 30 days after the occurrence, SA-300 identifies this event as falling into the 5-60 day reporting category on pages 19 and 30 and further states on page 30 that any event requiring reporting between 5 and 60 days can be sent straight to NMED. The error identified in SA-300 was sent to the NRC's NMED Project Manager who stated that it would be corrected when SA-300 was

revised. The Program stated it would update its procedures accordingly to correct this item so that these types of events would be reported correctly in the future. During the on-site review, the team found that the Program had updated its procedure, to address these two items.

During the review period, 12 allegations were received by the Program. The team evaluated 10 allegations including 4 allegations that the NRC referred to the Program during the review period. The team found that the Program took prompt and appropriate action in response to the concerns raised. All the allegations reviewed were appropriately closed, concerned individuals were notified of the actions taken, and allegers' identities were protected whenever possible in accordance with State law.

c. Evaluation

The team determined that, except as noted below during the review period, Georgia met the performance indicator objectives listed in Section 3.5.a.

- Notifications were not consistently made to the NRC Headquarters Operations Center for incidents requiring a 24-hour or immediate notification to the Agreement State or NRC.

The team identified that of the 38 incidents where a HOO notification was required, the Program reported 11 of them late. The late events all required reporting within 24 hours to the HOO and fell under either 10 CFR 30.50(b)(2) or 10 CFR 20.2201(a)(1)(ii). Interviews with the Program Supervisor prior to the review noted a general misunderstanding about how reporting certain events under 10 CFR 30.50(b)(2) applied. Additional interviews with the Program Supervisor noted that SA-300 led them to believe that events falling under 10 CFR 20.2201(a)(1)(ii) only required a written report and did not require reporting to the HOO. As noted in the Discussion section above, SA 300 will be corrected to note that reporting for these types of events should be to the HOO within 30 days following the occurrence.

Based on the criteria in MD 5.6, the team recommends that Georgia's performance with respect to the indicator, Status of Materials Inspection Program, be found satisfactory.

d. Management Review Board Chair's Determination

The final report will present the MRB Chair's determination regarding this indicator.

4.0 NON-COMMON PERFORMANCE INDICATORS

Four non-common performance indicators are used to review Agreement State programs: (1) Legislation, Regulations, and Other Program Elements; (2) Sealed Source and Device (SS&D) Evaluation Program; (3) Low-Level Radioactive Waste Disposal (LLRW) Program; and (4) Uranium Recovery Program. The NRC retains regulatory authority for the SS&D evaluation and uranium recovery program; therefore, only the first and third non-common performance indicators applied to this review.

4.1 Legislation, Regulations, and Other Program Elements

State statutes should authorize the State to establish a program for the regulation of agreement material and provide authority for the assumption of regulatory responsibility under the State's agreement with the NRC. The statutes must authorize the State to promulgate regulatory requirements necessary to provide reasonable assurance of adequate protection of public health, safety, and security. The State must be authorized through its legal authority to license, inspect, and enforce legally binding requirements, such as regulations and licenses.

The NRC regulations that should be adopted by an Agreement State for purposes of compatibility or health and safety should be adopted in a time frame so that the effective date of the State requirement is not later than 3 years after the effective date of the NRC's final rule. Other program elements that have been designated as necessary for maintenance of an adequate and compatible program, should be adopted and implemented by an Agreement State within 6 months following NRC designation. A Program Element Table indicating the Compatibility Categories for those program elements other than regulations can be found on the NMSS website/Regulation Toolbox at https://scp.nrc.gov/regtoolbox.html.

a. Scope

The team used the guidance in State Agreements' Procedure SA-107, "Reviewing the Non-Common Performance Indicator: Legislation, Regulations, and Other Program Elements," and evaluated Georgia's performance with respect to the following performance indicator objectives. A complete list of regulation amendments can be found on the NRC website at the following address: https://scp.nrc.gov/regtoolbox.html.

- The Agreement State program does not create conflicts, duplications, gaps, or other conditions that jeopardize an orderly pattern in the regulation of radioactive materials under the Atomic Energy Act, as amended.
- Regulations adopted by the Agreement State for purposes of compatibility or health and safety were adopted no later than 3 years after the effective date of the NRC regulation.
- Other program elements, as defined in SA-200 that have been designated as necessary for maintenance of an adequate and compatible program, have been adopted and implemented within 6 months of NRC designation.
- The State statutes authorize the State to establish a program for the regulation of agreement material and provide authority for the assumption of regulatory responsibility under the agreement.
- The State is authorized through its legal authority to license, inspect, and enforce legally binding requirements such as regulations and licenses.
- Sunset requirements, if any, do not negatively impact the effectiveness of the State's regulations.

b. Discussion

Georgia became an Agreement State on December 15, 1969. Georgia's current effective statutory authority is contained in the Official Code of Georgia Annotated, Title 31, Chapter 13, of the Georgia Statutes. The Department is designated as the

State's radiation control agency. No legislation affecting the radiation control program was passed during the review period.

Georgia's administrative rulemaking process takes approximately 1 year from drafting to finalizing a rule. The public, the NRC, other agencies, and potentially impacted licensees and registrants are offered an opportunity to comment during the process. Comments are considered and incorporated, as appropriate, before the regulations are finalized and approved by the Board of the Department of Natural Resources. The review team noted that Georgia's rules and regulations are not subject to "sunset" laws.

During the review period, the Program submitted eight proposed regulation amendments to the NRC for a compatibility review. One of the amendments was overdue for adoption at the time of submission in 2017. The remaining seven amendments were submitted timely and were all adopted and enforceable by the Program within the required 3-year timeframe for adoption.

The following amendment was overdue at the time of adoption:

> "Distribution of Source Material to Exempt Persons and to General Licensees and Revision of General License and Exemptions," 10 CFR Parts 30, 40 and 70 amendment (78 FR 32310), that was due for Agreement State adoption by August 27, 2016.

The team reviewed guidance documents that Georgia uses to meet the requirements of other program elements (e.g., Pre-Licensing Guidance, Inspection Procedures, etc.) that the NRC has designated as necessary for the maintenance of an adequate and compatible program. These are living documents and changes are made as needed. The team found that all documents reviewed were compatible.

c. Evaluation

The team determined that, except as noted below during the review period, Georgia met the performance indicator objectives listed in Section 4.1.a.

- Regulations adopted by the Agreement State for purposes of compatibility or health and safety were adopted later than 3 years after the effective date of the NRC regulation.

During the review period, the Program submitted eight proposed regulation amendments to the NRC for a compatibility review. One of the amendments was submitted late and was overdue for adoption at the time of submission. The remaining seven amendments were submitted timely and were all adopted and enforceable by the Program within the required 3-year timeframe for adoption.

Based on the criteria in MD 5.6, the team recommends that Georgia's performance with respect to the indicator, Status of Materials Inspection Program, be found satisfactory.

d. Management Review Board Chair's Determination

The final report will present the MRB Chair's determination regarding this indicator.

4.3 Low-Level Radioactive Waste Disposal Program

In 1981, the NRC amended its Policy Statement, “Criteria for Guidance of States and NRC in Discontinuance of NRC Regulatory Authority and Assumption Thereof by States Through Agreement,” to allow a State to seek an amendment for the regulation of Low-Level Radioactive Waste (LLRW) as a separate category. Although, the Georgia Agreement State Program has authority to regulate a LLRW disposal, the NRC has not required States to have a program for licensing a disposal facility until such time as the State has been designated as a host State for a LLRW disposal facility. When an Agreement State has been notified or becomes aware of the need to regulate a LLRW disposal facility, it is expected to put in place a regulatory program that will meet the criteria for an adequate and compatible LLRW disposal program. There are no plans for a LLRW disposal facility in Georgia. Accordingly, the team did not review this indicator.

5.0 SUMMARY

As noted in Sections 3.0 and 4.0 above, Georgia’s performance was found to be satisfactory for all six performance indicators reviewed. The team did not make any new recommendations and determined that the recommendations from the 2016 IMPEP review should be closed.

Accordingly, the team recommends that Georgia be found adequate to protect public health and safety, and compatible with the NRC's program. Based on the results of the current IMPEP review, the team recommends that the next full IMPEP review take place in approximately 4 years, with a periodic meeting in approximately 2 years.

LIST OF APPENDICES

APPENDIX A

IMPEP REVIEW TEAM MEMBERS

Name	**Areas of Responsibility**
Randy Erickson, Region IV	Team Leader Compatibility Requirements
Monica Ford, Region I	Technical Staffing and Training
Darren Piccirillo, Region III	Status of the Materials Inspection Program
Michelle Hammond, Region IV	Technical Quality of Licensing Actions
Phillip Peterson State of Colorado	Technical Quality of Inspections Inspector Accompaniments
Brian Goretzki State of Arizona	Technical Quality of Incident and Allegation Activities

APPENDIX B

INSPECTION ACCOMPANIMENTS

The following inspection accompaniments were performed prior to the on-site IMPEP review:

Accompaniment No.: 1	License No.: GA 1369-1
License Type: Industrial Radiography	Priority: 1
Inspection Date: 03/02/20	Inspector: JM

Accompaniment No.: 2	License No.: GA 45-1
License Type: Medical limited scope (HDR)	Priority: 2
Inspection Date: 03/03/20	Inspectors: JH, SW assisting

Accompaniment No.: 3	License No.: GA 45-1
License Type: Medical limited scope (diagnostic and therapeutic uses)	Priority: 2
Inspection Date: 03/03/20	Inspectors: SW, JH assisting

Accompaniment No.: 4	License No.: GA 574-1
License Type: Medical limited scope (diagnostic and therapeutic uses)	Priority: 3
Inspection Date: 03/04/20	Inspector: LL

Accompaniment No.: 5	License No.: GA 1222-1
License Type: Medical limited scope (diagnostic only)	Priority: 5
Inspection Date: 03/05/20	Inspector: RW